2007 Colorado State University Combined Research and Extension Annual Report

Status: Accepted
Date Accepted: 08/27/08

2007 Colorado State University Combined Research and Extension Annual Report

I. Report Overview

1. Executive Summary

During this program year, CSU Extension experienced several major changes. A new Extension Director, Dr. Deborah Young, was hired, bringing a re-energized approach to programming and a re-newed vision to Colorado Extension work. The changing economy resulted in a new emphasis on programming in bio-based, renewable energy and energy conservation. A new reporting system was established, resulting in some strong data to support the difference Extension is making in the lives of people. As with all new systems, there was great success in some program areas, less in others. As we continue to refine and improve the system we should be able to provide even more data in the future.

All in all, the 2006-07 program year was an exciting one for Colorado Extension and Research. A quote from the published Annual Report of CSU Extension expresses our commitment to the people of Colorado:

"Today information is pervasive. 24-hour news, talk radio and reality TV have become primary forms of entertainment. Paper newspapers are rapidly becoming a thing of the past for today's 20- to 40-somethings as news must be real-time or only a click away. We can text message or e-mail a friend, mentor or family member for help any moment of the day or night.

With the screen playing the news in real-time and answers to most everyday questions only a click away on your computer, what is it that continues to make Extension essential across Colorado?

The answer is really quite simple: In an age of high technology and full speed ahead, Extension is local – based on local needs and community assets, trustworthy and completely committed. Extension is about people, research and community. No one else is present in 59 of 64 counties throughout Colorado, listening, partnering, providing hands-on assistance, research-based education and information and community support except Colorado State University Extension.

Of course people can surf the Internet and find a diet for diabetes, but how many hours did that search take and how do they know it is correct? What if it is not accurate or healthy? Who will they consult with if they do not see health improvement? From local CSU county Extension offices, classes are offered and support given on an ongoing basis in your home community with people you know and recognize. We know your local hospital and public health department and have formed partnerships with them. You know our staff and we know you. We are in your community for the long haul.

The knowledge, information, and education methods that Extension provides is research-based, having been formulated by some of the best minds in the state at Colorado State University.

All Colorado citizens benefit in reduced state costs when one Colorado citizen improves her health and reduces emergency health care costs. The Extension ripple effect provides public value to every Colorado citizen, not only those directly engaged with Colorado State University Extension.

Extension is high technology, too. We lead in providing almost every county in Colorado the opportunity to participate in live university-based programs while sitting in the comfort of their local community Extension office. Extension has a Web site that can provide answers from leading scientific researchers on most common questions and engage communities throughout Colorado, 24 hours a day, seven days a week. We look to provide online, interactive communities for those who want to or must stay in their communities and yet who deserve the same information, education, and opportunity to engage currently available at only a handful of locations throughout Colorado For nearly 100 years, Extension has helped people find the best resources, locally or from the university, to resolve problems. From clean energy opportunities, youth development,urban and rural water issues,new sustainable agricultural direction, and healthy diverse families, Colorado State University Extension is helping Colorado's people and economy grow one community at a time."

It is our desire to share the exciting and dynamic aspects of the research conducted by a selected group of the more than 120 ongoing research projects supported by the Agricultural Experiment Station at Colorado State University. As an integral component of a land grant university, the Agricultural Experiment Station is committed to conducting research on the agricultural and natural resource needs of the people of Colorado. Our mission is to conduct research that addresses the economic viability, environmental sustainability, and social acceptability of activities impacting agriculture, natural resources and consumers in Colorado. The Agricultural Experiment Station research efforts extend across the entire campus involving faculty and staff from more than 15 academic departments in 7 colleges. In addition to projects conducted by faculty located at the main Colorado State University campus in Fort Collins, we have a network of off-campus research centers conducting research to meet agricultural production needs in different regions of the state. To address the complex problems facing agriculture, it is essential that academic departments and off-campus research centers work in concert with each other to solve problems through interdisciplinary efforts.

This annual report was developed in a joint effort with Extension at Colorado State University. Because the research and education linkages are fundamental to a land-grant university, we felt it important to highlight that connection and the collaborative efforts that are relevant, effective and efficient. We are committed to conducting relevant research programs through faculty and

staff supported by the Agricultural Experiment Station and subsequently providing information and education across the state through the Extension network to bring educational resources and information to help Coloradoans solve problems.

Many of the research projects described in this report receive significant support from state, regional, and federal funding agencies. Each year the Agricultural Experiment Station compiles a report on external funding of our agricultural and natural resource research program. The total external funds received by our faculty exceed $20 million per year. Thus, funds provided by the state of Colorado leverage at least a two-fold increase in external support for our research programs. We are proud of our faculty and their abilities to conduct relevant and important research.

Total Actual Amount of professional FTEs/SYs for this State

Year:2007	Extension		Research	
	1862	1890	1862	1890
Plan	139.0	0.0	69.0	0.0
Actual	150.0	0.0	50.0	0.0

II. Merit Review Process

1. The Merit Review Process that was Employed for this year

- Internal University Panel
- External Non-University Panel
- Combined External and Internal University External Non-University Panel

2. Brief Explanation

CSU Extension requires that all curriculum and publications be reviewed to assure an appropriate and accurate research base. Programming efforts, including curriculum are peer reviewed through the Work Team and Core Competency Area process. All proposed programs, curriculum, and publications are submitted to the appropriate work team (consisting of extension campus and regional specialists and extension agents) for review and approval. Only those programs, curriculum and publications accepted and approved by the work teams are then submitted to the Core Competency Area leaders (Extension specialists and/or Department Heads) for review by the Program Leadership Team (all CCA leaders plus Extension Regional Directors, Diversity Leader, Assistant Director for Operations, Assistant Director for Community Relations, and the Extension Director). Considerations for approval include a completed logic model, including situation statement, target audience, inputs, outputs and outcomes, as well as fiscal and marketing plans. Finally, on a regular basis, the state Extension Advisory Committee also reviews Work Team plans and progress. This year we have implemented a further review process where Work Teams, on a scheduled basis, provide face-to-face reporting on their progress to date, plans for the future, and specific obstacles they have encountered and overcome. At the county level, county programs are reviewed by local county program advisory councils made up of local experts, as well as stakeholders.

The AES uses a college and department based peer review process for all Hatch and McIntire-Stennis research projects. Several of the colleges involved in AES research use peer review in a competitive process to allocate projects and funds. All multi-state projects are peer reviewed using proceedures implemented by the Western Association of Agricultural Experiment Station Directors.

III. Stakeholder Input

1. Actions taken to seek stakeholder input that encouraged their participation

- Use of media to announce public meetings and listening sessions
- Targeted invitation to traditional stakeholder groups
- Targeted invitation to non-traditional stakeholder groups
- Targeted invitation to traditional stakeholder individuals
- Targeted invitation to non-traditional stakeholder individuals
- Targeted invitation to selected individuals from general public
- Survey of traditional stakeholder groups
- Survey of traditional stakeholder individuals
- Survey specifically with non-traditional groups
- Survey specifically with non-traditional individuals

Brief Explanation

CSU Extension requires a functioning advisory committee in each county. In most counties, these committees are appointed by the County Commissioners, assuring that wide representation occurs. The Committees are most often comprised of local residents who have an interest in Extension programming. This may include a representative of the commissioners, school personnel, recipients of Extension programs, volunteers, youth participants, and others. In addition to an overall Extension Advisory Committee in each county, many counties also have program-specific advisory committees (such as 4-H, horse, livestock, etc.). To continue to encourage the use of advisory committee input, this past year we provided in-service education on the use of Advisory Committees for all County Directors and distributed an updated Advisory Committee Manual. That Manual is available on line at: http://www.ext.colostate.edu/staffres/cad_adv_cmte.pdf This year has also been one of increased marketing efforts on the part of CSU Extension. Our marketing staff has provided training for agents on marketing of programs to clientele. In addition representatives of the Diversity Catalyst Team have worked specifically with three work teams to improve their outreach to previously un-reached audiences with targeted messages to targeted populations.

Research progams in the AES are guided by advisory committees active at several levels. Each of the 8 off-campus research centers has an advisory committee composed of local agricultural producers, CSU Extension staff, and agency representatives. The advisory committees meet annually with our AES staff. Results of past research are shared and new research initiatives are discussed with committee members. Several agricultural check-off organizations annually provide funding for AES programs which involves a joint review of proposals and research topics. We also have a President's Agricultural Advisory Committee where agricultural leaders are briefed on programs and research needs are discussed.

2(A). A brief statement of the process that was used by the recipient institution to identify individuals and groups stakeholders and to collect input from them

1. Method to identify individuals and groups

- Use Advisory Committees
- Use Internal Focus Groups
- Use External Focus Groups
- Open Listening Sessions
- Use Surveys
- Other (Council for Agricultural Research, Extension, and Teaching)

Brief Explanation

At the county level, advisory committees are appointed by county commissioners and may be individuals who have indicated an interest in Extension programming, or individuals identified by Extension agents or commissioners. They may be representatives of partner agencies, collaborators, representatives of the local school district, volunteers, or others in the community. At the state level, the Colorado Extension Advisory Committee has (by Bylaws requirement) membership representing all areas of the state, partnering agencies (the Green Industry, Farm Bureau, Farmers' Union, etc.). This is gender and racial distribution among the members. Regional representatives are suggested by Extension professionals from across the state and often are either an Extension volunteer or a representative of a partnering agency (Colorado State Patrol, Area Council on Aging).

Stakeholders for AES research programs involve many of the individuals described above for our Extension programs. In the agricultural and natural resource arena, we serve a common set of organizations and industry constituents. Local representives and faculty are involved in selected members of advisory committees.

2(B). A brief statement of the process that was used by the recipient institution to identify individuals and groups who are stakeholders and to collect input from them

1. Methods for collecting Stakeholder Input

- Meeting with traditional Stakeholder groups
- Survey of traditional Stakeholder groups
- Meeting with traditional Stakeholder individuals
- Survey of traditional Stakeholder individuals
- Meeting specifically with non-traditional groups
- Meeting specifically with non-traditional individuals
- Meeting with invited selected individuals from the general public
- Survey of selected individuals from the general public

Brief Explanation

Stakeholder input is garnered by regular meetings with advisory committees, partners, collaborators, and other interested individuals (volunteers, commissioners). Input is solicited on program direction, focus, implementation, and evaluation. CSU Extension also conducts a yearly survey of county commissioners regarding the strength and weaknesses of Extension programming in their county.

3. A statement of how the input was considered

- To Identify Emerging Issues
- Redirect Extension Programs
- Redirect Research Programs
- In the Staff Hiring Process
- In the Action Plans
- To Set Priorities

Brief Explanation

Input from stakeholders is used in the planning for and revision of CSU Extension programming. Ideas and suggestions are provided through local county advisory committees to the Colorado Extension Advisory Committee (CEAC) regarding the need for new or renewed efforts. The CEAC provides guidance to the Extension Director and Assistant Directors who then work with the PLT and work teams to establish new programs or modify existing ones. A recent example is the emphasis our stakeholders have urged us to pursue in the area of bio-based energy, energy conservation, etc.

Stakeholder input is used to annually adjust the AES research program. For example, the wheat industry noted that white wheat offered them a market advantage and our wheat breeding progam responded by reallocating resources to incorporate this new research area. A major stakeholder in directing research programs is funding agencies such as commodity organizations, and state and federal agencies.

Brief Explanation of what you learned from your Stakeholders

In the past year, the CEAC has encouraged CSU Extension to focus efforts on the following: 1. Those programs for which a public value can be articulated. CEAC went through an educational workshop on public value (as did all our agents at regional meetings). The discussion centered around work that has clear outputs and outcomes, impacts that can be identified and explained to the general public (who may not be stakeholders of Extension). 2. Programs which offer the opportunity to partner with CSU-Global or the Division of Continuing Education which provide a broader reach for Extension. Joint programming also allows Extension to meet the educational needs of rural communities for certificate or continuing education courses (such as head start child care providers in remote locations). 3. In terms of programming the CEAC reaffirmed the need for focused programming in the areas of energy, youth development on military bases, 4-H, consumer horticulture, natural resource conservation and protection including efforts to combat deforestation due to the pine beetle, small acreage management, agricultural sustainability, parenting, family financial management, gerontology, and human nutrition.

IV. Expenditure Summary

1. Total Actual Formula dollars Allocated (prepopulated from C-REEMS)

Extension		Research	
Smith-Lever 3b & 3c	**1890 Extension**	**Hatch**	**Evans-Allen**
2830172	0	4816426	0

2. Totaled Actual dollars from Planned Programs Inputs				
	Extension		Research	
	Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
Actual Formula	2016050	0	2298047	0
Actual Matching	2016050	0	2298047	0
Actual All Other	8102294	0	6553644	0
Total Actual Expended	12134394	0	11149738	0

3. Amount of Above Actual Formula Dollars Expended which comes from Carryover funds from previous years				
Carryover	2016050	0	202849	0

V. Planned Program Table of Content

Program #1

V(A). Planned Program (Summary)

1. Name of the Planned Program

4-H Youth Development

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
802	Human Development and Family Well-Being	15%		30%	
806	Youth Development	85%		70%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	35.0	0.0	0.0	0.0
Actual	50.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
667547	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
667547	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2682801	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Support traditional club program by recruiting and establishing new clubs
•Conduct after school and school enrichment programs that provide curriculum in leadership, citizenship and life skills development.
•Develop new curriculum in response to new audience needs
•Strengthen the volunteer management system needed to implement the 4-H program by:
•Conduct agent trainings to develop volunteer management skills
•Develop tools to support volunteer management system
•Conduct volunteer leader training
•Develop new funding support through individual and group solicitation, grant applications and fee-for-service programs.

2. Brief description of the target audience

For 4-H programming - all Colorado youth. For volunteers - interested adults, parents, community members, seniors, partner agencies (Boys and Girls Clubs, etc.).For increased funding - potential funders, including grant providers.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	11000	5000	25000	80000
2007	6411	955	16249	84850

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	2	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Increased funding for 4-H through private dollarsby increasing support from the Colorado 4-H Youth Fund.

Year	Target	Actual
2007	100000	250585

Output #2

Output Measure

- Number of web hits regarding 4-H topics

Year	Target	Actual
2007	5000	2730128

Output #3

Output Measure

- Number of youth reached by all 4-H delivery methods-club, after school, school enrichment.

Year	Target	Actual
2007	25000	105134

Output #4

Output Measure

- New/revised curriculum to meet changes in needs for youth audiences.

Year	Target	Actual
2007	5	8

Output #5

Output Measure

- Number of volunteer managment trainings held and tools developed.

Year	Target	Actual
2007	10	55

Output #6

Output Measure

- Number of volunteer leaders.

Year	Target	Actual
2007	12000	8884

Output #7

Output Measure

- Number 4-H on-line e-Learning orientation modules completed by volunteers.

Year	Target	Actual
2007	{No Data Entered}	687

Output #8

Output Measure

- Amount of grant dollars generated to support 4-H Youth Development programs.

Year	Target	Actual
2007	{No Data Entered}	80904

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Youth building life skills including leadership, citizenship, decision making and communications skills. Percent of youth reporting positive change in these skills as a result of 4-H participation.
2	Percent of volunteers reporting increase skills in area of responsibility.

Outcome #1

1. Outcome Measures

Youth building life skills including leadership, citizenship, decision making and communications skills. Percent of youth reporting positive change in these skills as a result of 4-H participation.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	70	92

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

Outcome #2

1. Outcome Measures

Percent of volunteers reporting increase skills in area of responsibility.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	70	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Volunteers form the core of the 4-H program. Without the continuous recruitment of new volunteers, and the retention of seasoned/trained volunteers, the 4-H program would be unable to effectively reach and teach youth.

What has been done

The Leadership and Volunteer Development work team has planned a comprehensive program of volunteer training and development opportunities - from on-line tutorials, to face-to-face train the trainer workshops. Multiple methods to communicate to leaders were identified - monthly or quarterly training; increased number of volunteer committees to increase organizational capacity and develop leadership; monthly newsletters; Trainer's Toolbox organized and offered; volunteer leaders' handbook. New training in reaching previously unreached audiences was provided.

Results

Mandatory leader training was instituted in 4 counties with 75%-96% of leaders in attendance.
Improved communication was identified by 72-95% of leaders.
There was an increase in retention of leaders and 7% increase in volunteers enrolled through new recruitment methods.

4. Associated Knowledge Areas

KA Code	Knowledge Area
806	Youth Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Programatic Challenges
- Other (competing family priorities)

Brief Explanation

With the institution of a new planning and reporting system in Colorado, the measures of outcomes were not fully known, and the data collected did not reflect all the intended outcomes. As we continue to evolve this system, the data will more fully reflect the outcomes we are looking for. (Example-Leaders reflecting an increase in skills).

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals,group,organizations) and non-participants

Evaluation Results

Key Items of Evaluation

Program #2

V(A). Planned Program (Summary)

1. Name of the Planned Program

Strong Families, Healthy Homes

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
723	Hazards to Human Health and Safety	10%		10%	
801	Individual and Family Resource Management	19%		20%	
802	Human Development and Family Well-Being	52%		50%	
803	Sociological and Technological Change Affecting Individuals,	3%		0%	
804	Human Environmental Issues Concerning Apparel, Textiles, a	5%		10%	
805	Community Institutions, Health, and Social Services	11%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	20.0	0.0	0.0	0.0
Actual	10.0	0.0	0.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
133105	0	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
133105	0	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
534937	0	0	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Educational activities include:

•Adaption of curriculum, training for agents, educational programs on financial management for families.

•Training (face-to-face and on-line) for care givers.

•Training for couples, parents of young children and disabled farmers

•Parenting classes for parents and train-the-trainer classes for individuals who work with parents

•Training using EPA-based radon and carbon monoxide education for agents first, then the general public, builders, realtors, homeowner's associations, and home owners.

2. Brief description of the target audience

Colorado families, including diverse and difficult to reach populations. Care givers in day care and out-of-school-age care locations. Parents of young children. Disabled farmers. Owners and potential owners of homes.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1000	5000	0	0
2007	8284	28261	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	6	0	0

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of trainings held on indoor air quality issues.

Year	Target	Actual
2007	10	67

Output #2

Output Measure

- Number of parenting programs held.

Year	Target	Actual
2007	15	246

Output #3

Output Measure

- Agrability workshops held.

Year	Target	Actual
2007	5	4

Output #4

Output Measure

- Trainings held for couples/parents on communications skills and raising a secure child.

Year	Target	Actual
2007	10	0

Output #5

Output Measure

- Number of trainings held for care providers.

Year	Target	Actual
2007	5	109

Output #6

Output Measure

- Trainings held in family financial management.

Year	Target	Actual
2007	25	45

Output #7

Output Measure

- Number of newsletters/publications distributed.

Year	Target	Actual
2007	{No Data Entered}	392329

Output #8

Output Measure

- Grant dollars/user fees generated to support this program.

Year	Target	Actual
2007	{No Data Entered}	38840

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Number of individuals trained
2	Perent of attendees gaining knowledge in the subject matter
3	Percent of participants changing attitudes as a result of the training
4	Percent of participants intending to change behavior as a result of the training.
5	Percent of participants reporting behavioral change based on participation.

Outcome #1

1. Outcome Measures

Number of individuals trained

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1000	8284

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

The following is the content of an unsolicited email received from one program participant from Larimer County and was reported in the 2006 FES team report. This email reflects the importance of the educational opportunities provided by the FES work team members in meeting individual and family concerns regarding their money management issues. The important outcome for the 2007 FES team report is to acknowledge that the author of this comment applied to the Larimer County Commissioners to be a member of the Extension Advisory Committee, was appointed, and is now instrumental in opening more doors for Extension programming through the Larimer County Workforce Center where she now works.

What has been done

Testimony of one individual who attended a Family Eonomic Stability planned workshop series.

Results

"Hello xxxx,

I just wanted to let you know how it has been since we met. I did not do another payday loan since we met. I planned out and filled out my budget when I last left your office. I had been using and adjusting that same budget ever since. I have not had any overdraft fees in the last three months and donÃt anticipate that to be a problem anymore. I am slowly working on my debt. So I just wanted to thank you. I am so glad that I got connected with you. Having and keeping a budget is hard and frustrating at times but it pays in the end. I will never not us a budget again. I will never let my bank account get out of control again. I will always know what my monthly income is that I have to work with each month and I owe it all to you.

Thank you so much".

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families and Communities
801	Individual and Family Resource Management
805	Community Institutions, Health, and Social Services

Outcome #2

1. Outcome Measures

Perent of attendees gaining knowledge in the subject matter

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	70	87

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Home Ownership

Owning a home, the great American family dream, is sometimes impossible without critical, basic personal financial skills.

Larimer County, Colorado faces the challenge of homelessness:
• Families are the fastest growing homeless population.
• 1,200 children in the Poudre School District are homeless.
• 50 percent of those in homeless shelters have jobs.
• 92 percent of homeless women are survivors of domestic violence.

What has been done

Colorado State University Extension's Financial Fitness classes build the skills and confidence to make the dream a reality for at-risk families. The Home Ownership Program through the Fort Collins Housing Authority (FCHA) and preparation classes, including the Financial Fitness course by CSU Larimer County Extension.

Results

Through the Larimer County Extension Financial Fitness program, homeowners like Michelle Hodge and Si Bon Steetle have been able to reorganize their financial goals and purchase their own homes. "All I could think about was buying a house and make a home for my son—anything to better our lives," Steetle says.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Families and Communities
801	Individual and Family Resource Management
802	Human Development and Family Well-Being

Outcome #3

1. Outcome Measures
Percent of participants changing attitudes as a result of the training

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	60	84

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

During one of the richest times in U.S. history, individuals and families are suffering from excessive consumer credit indebtedness, are saving less, filing bankruptcies, and experiencing home foreclosures at an increasing rate. Real income has declined. Inflationary pricing is affecting people's ability to afford basic needs. Daily newspaper articles discuss Americans' doubts about personal economic progress. 78% of middle class Americans say it is more difficult for them to maintain their standard of living. Self sufficiency standards for each county show what a difficult time low income families have in affording the basic needs. Families at all income levels are one pay check away from a financial crisis.

What has been done

Colorado State University Cooperative Extension, specifically the Family Economic Stability (FES) Work team, implemented programs targeted at helping participants develop a plan to manage their finances and plan for the future. These programs also helped people think about the importance of organizing their financial records, establishing spending plans, keeping their financial information safe, and managing their use of credit wisely.

Results

Some of the programs presented and attended were:
172 participated in programs in three counties related to - Estate planning and record organizing, such as Legally Secure Your Financial Future and Who Gets Grandma's Yellow Pie Plate.
- 578 adults and youth participated in 39 basic money management classes/programs using the Save Some, Spend Some, Share Some curriculum. Several of these classes were taught to TANF participants (in at least six counties: Eagle, Denver, Jefferson, Crowley, Larimer, Adams). Program participant evaluations vary by county. Evaluation tools measure knowledge gained (typically 85% - 100%), intention to change behavior (60% to 90%), change in attitude (89% - 92%) and behavior change / use of skills (not all counties provide the same measurements, however a sampling of results include: 100% having written goals and 28% set up automatic savings deductions from their paychecks in one agent's class of 18 people).
- 170 participated in education programs related to their financial future such as Funding Long Term Care and Catch Up Strategies for Retirement Planning.
- 28 participated in the program Small Steps to Health and Wealth, with each participant identifying at least one small step they would take to improve both their health and wealth.
- 41 participated in programs specifically on preventing identity theft. This is also a component of the Spend Some, Save Some, Share Some curriculum.
- Other financial lessons were presented to a wide variety of individuals, including:
- 14 in an Aims Community College freshman class
- 8 Mentor Moms
- 61 grandparents raising grandchildren on budgeting for Christmas
- 20 grandparents raising grandchildren on balancing finances for their own retirement needs while providing for the children under their care
- 111 youth and 5 adults in "Rule of 3's - Decision Making" and "Big Brown Bag - Economics 101 for Youth"
- High School teachers receiving training on the High School Financial Planning Program materials, complements of the National Endowment for Financial Education

Additionally, team members reported having:
- Answered 537 requests for information about financial management or consumer purchasing (walk-ins, emails, and telephone calls).
- Distributed >2620 publications on financial management and consumerism
- Contributed to several newsletters that potentially reach 80,350 contacts
- Created displays and exhibits, such as displays at an Elder Summit and at a Children's Day (on EITC)
- Recorded radio programs, including the Radio Reaching Service of the Rockies
- Worked with the St. Vrain School district to require that all students receive financial education prior to graduation
- Written and submitted news releases to local newspapers

4. Associated Knowledge Areas

KA Code	Knowledge Area
802	Human Development and Family Well-Being
805	Community Institutions, Health, and Social Services
801	Individual and Family Resource Management
803	Sociological and Technological Change Affecting Individuals, Families and Communities

Outcome #4

1. Outcome Measures

Percent of participants intending to change behavior as a result of the training.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	64

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Older workers are staying in the workforce longer because they (1) wish to continue to contribute their expertise and/or (2)simply cannot afford to retire. Many are delaying retirement because of the downturn in the stock market and their diminished nest eggs.

What has been done

Four counties joined together to plan and hold the first Rocky Mountain Conference on Aging in the Workplace with 102 participants from 3 states representing employers, human resource professionals, gerontology experts, Extension professionals and others.

Results

Post conference evaluation demonstrated program effectiveness with intergenerational understanding and communication being cited by 66% of respondents as something they plan to use in the workplace, and just under half planning to seek further education about conference topics. Between 36-40% stated they will look into their workplace policies concerning older workers, as well as retention and recruitment of older employees. A little over 25% will look into adaptation of the physical work environment.

4. Associated Knowledge Areas

KA Code	Knowledge Area
801	Individual and Family Resource Management
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families and Communities
723	Hazards to Human Health and Safety
805	Community Institutions, Health, and Social Services

Outcome #5

1. Outcome Measures

Percent of participants reporting behavioral change based on participation.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	41

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Radon in the Home

A home can be a family's greatest asset, yet many homeowners do not know why and how to take the necessary measures for maintaining the integrity and value of their home, as well as ensuring the safety of its occupants - poor indoor air quality can be a serious health risk. The majority of counties in Colorado fall into EPA Zone 1, which means that these counties have a predicted average indoor radon (odorless, colorless and deadly gas) screening level greater than 4 pCi/L (pico curies per liter), the level at which EPA recommends mitigation to reduce the risk of lung cancer.

What has been done

CSU Extension in Archuleta County received a 2006 state grant for free home radon testing kits to distribute to its residents. A public awareness campaign through the local media regarding the risks of radon in the home was launched to promote the availability of the free kits. In 2007 testing reports began coming in - 60 percent of the homes tested had radon levels of immediate concern; 31 percent needed retesting and mitigation.

Results

Other county agencies were engaged which resulted in changes to the Archuleta County building code. Statewide an increased number of homes were tested for radon. Throughout Colorado 4,521 people participated in an educational program in one year; close to half tested their home for radon and 853 received assistance to deal with a radon problem.
Changes to building codes have led to new homes being built with passive radon resistant systems.

4. Associated Knowledge Areas

KA Code	Knowledge Area
723	Hazards to Human Health and Safety
805	Community Institutions, Health, and Social Services
802	Human Development and Family Well-Being
803	Sociological and Technological Change Affecting Individuals, Families and Communities
801	Individual and Family Resource Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Programatic Challenges

Brief Explanation

Due to sabbatical leave of one work team leader (specialist), one set of outcomes (Raising a Secure Child) had no data. In addition, upon return from sabbatical, programmatic efforts are being directed in a different area. The POW will be revised to reflect this change.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Case Study
- Comparison between locales where the program operates and sites without program intervention

Evaluation Results

Key Items of Evaluation

Program #3

V(A). Planned Program (Summary)

1. Name of the Planned Program

Nutrition and Food Safety

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
701	Nutrient Composition of Food	0%		20%	
703	Nutrition Education and Behavior	75%		40%	
704	Nutrition and Hunger in the Population	1%		0%	
711	Ensure Food Products Free of Harmful Chemicals, Including	2%		10%	
712	Protect Food from Contamination by Pathogenic Microorgani	6%		20%	
724	Healthy Lifestyle	11%		0%	
805	Community Institutions, Health, and Social Services	5%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	24.0	0.0	7.0	0.0
Actual	30.0	0.0	5.9	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
398554	0	425072	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
398554	0	425072	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1601746	0	234042	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

Food Safety Education

•Food Satety training for consumers, high risk audiences and their caregivers.(Eat Well for Less, La Cocina Saludable, Worksite Wellness, Safe Home Food Preparation and Preservation, Promotion at Farmers Markets.)

•Food Satety Training for Food Service Managers and Workers (Food Safety Works, ServSafe, Food Safety for Food Bank Workers).

Promoting Food Security

•Multi-lesson series programs-Eat Well for Less, La Cocina Saludable]

•Single event porgrams targeting limited resource families

•Newsletters-Senior Nutrition News

Health Promotion/Chronic Disease Prevention

•Multi-lesson series - Dining with Diabetes, Small Changes Make a Big Difference, Strong Women-Strong Bones, Moving Toward a Healthier You, Healthy Heart, Smart-START for a Healthy Heart

•Self-paced program - Self-Care for a Healthy Heart

•Single lessons - Workable Wellness (worksite wellness).

•Youth program- Food Friends-Making New Foods Fun for Kids, Eating Right Is Basic, Chef Combo's Fantastic Adventures in Tasing and Nutrition, Professor Popcorn

Research

•Technical and extension publications

•Development of new technologies for improving food safety

•Development of recommendations on diet, exercise or other health related topics

2. Brief description of the target audience

Food Safety Education

•Consumers, High Risk Audiences (pregnant, immuno-compromised, elderly).

•Food Handlers and their managers at retail food establishments.

•Producers and processors of plant and animal agricultural products.

Promoting Food Security

•Limited-resource individuals and families at risk of being food insecure.

•Agencies addressing food security (food banks, food pantries, food stamps, WIC, etc.).

Health Promotion/Chronic Disease Prevention

•Individuals at risk for diabetes, heart disease, obesity(adults and youth)

•Seniors at risk for osteoporosis.

•Youth - nutrition focus

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	**Target**	**Target**	**Target**	**Target**
Plan	3500	150000	250	1000
2007	61704	392294	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	24	36	60

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of trainings in Food Safety Education, Food Security, Health Promtion and Disease Prevention held.

Year	Target	Actual
2007	25	291

Output #2

Output Measure

- Amount of grant dollars received to support Nutrition, Health and Food Safety

Year	Target	Actual
2007	25000	4268774

Output #3

Output Measure

- Number of newsletters on Food Safety Education, Food Security, and Health Promotion and Disease Prevention distributed.

Year	Target	Actual
2007	25000	3475715

Output #4

Output Measure

- Technical publications on food safety and nutrition.

Year	Target	Actual
2007	20	24

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Percent of participants at trainings indicating an increase in knowledge gained
2	Percent of participants reporting a change in attitude regarding the training topic
3	Percent of participants indicating a change in behavior as a result of the training
4	Number of participants at the trainings
5	Number of Partnering agencies throughout the state who collaborated in these efforts
6	Facilitate international trade of food products
7	Basic research on human nutrition

Outcome #1

1. Outcome Measures

Percent of participants at trainings indicating an increase in knowledge gained

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	76

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Food borne illness in the US is a major economic burden and cause of human suffering and death. Economic and social consequences are estimated to be over $3 billion each year, with lost productivity estimated at $30-40 billion. It is estimated that food borne contaminants cause approximately 76 billion illnesses, 325,000 hospitalizations, and 5,000 deaths in the US each year. The risk of food borne illness is especially important when hazardous food is served in group settings (eating establishments, child and assisted care facilities).

What has been done

CUS Extension has implemented ServSafe and Food Safety Works curriculum throughout the state. More than 4000 individuals were trained last year in the safe handling of food. Most of these individuals represented food service group settings.

Results

Seventy-five to 99% of program participants demonstrated knowledge gain through pre- and post program evaluations. Sixty-six percent of participants indicated they would implement a procedure that reduces a food safety risk. Approximately 43% indicated that they would train others in food safety procedures.

4. Associated Knowledge Areas

KA Code	Knowledge Area
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa
703	Nutrition Education and Behavior
711	Ensure Food Products Free of Harmful Chemicals, Including Residu
701	Nutrient Composition of Food
805	Community Institutions, Health, and Social Services

Outcome #2

1. Outcome Measures

Percent of participants reporting a change in attitude regarding the training topic

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	77

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Strong Women

It's estimated that women can lose 10 percent of muscle mass each decade after age 40. In rural areas especially, it is difficult for people to find inexpensive and much-needed fitness programs. Even when there are fitness clubs in a community, it is still hard to get seniors involved at a time when they may believe it's too late to start an exercise program. The majority of hospitalizations for fall-related injuries in Colorado (62 percent) involve individuals ages 65 and older. More than one-third of these individuals (38 percent) sustain a hip fracture.

What has been done

The goal for the Strong Women program, which was started at Tufts University, is to increase the strength and flexibility in older people to help improve their quality of life and allow them to live independently. While the program is open to all, women make up the majority of participants, in part due to their rapid loss of muscle and bone mass. While they sometimes do the exercises at home, the twice-a-week classes also offer them the chance to get out of the house, stay active and meet new people. Fourteen Extension agents in Colorado trained to be Strong- Women™ leaders, and teach at locations such as Extension offices, local senior centers and courthouse basements.

Results

Based on pre-and post tests of strength and balance, participants in the Strong Women, Strong Bones program improve both over the course of the training. In one case, an 84 year old woman, told to start using a cane by her doctor, completed six months of strength training and avoided the use of the cane. Participation in the SWSB programs have increased up to 49% year over year, especially in small, rural communities that do not have access to other fitness opportunities. Participants self-report a significant increase in their health following involvement in the program.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle
805	Community Institutions, Health, and Social Services

Outcome #3

1. Outcome Measures

Percent of participants indicating a change in behavior as a result of the training

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	71

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Food Stamp Education

According to USDA Food and Nutrition Service statistics, Colorado has more than 99,000 Food Stamp Program households; 464,000 households are estimated to be eligible with 53 percent of those classified as working poor.

What has been done

Colorado State University Extension has 14 agents involved in food stamp nutrition education. Educators and the campus research specialists who support them are working throughout the state delivering high quality, tested nutritional, shopping and food preparation classes to seniors, single parents, youth and working families. Extension's Healthy Habits Network is a broad-based collaboration among several groups, including WIC, Rocky Mountain Prevention Research Center (RMPRC), HeadStart, and the local hospital. They also work with community gardens and local businesses to create new ways of bringing people together around healthy food.

Results

Access to healthy food at farmer's markets in Colorado is improving through the efforts of the Colorado Farmers' Market Association, the State Department of Human Services and local Extension and a grant from the USDA. Colorado, like most states, now uses the Electronic Benefit Transfer (EBT) system to administer food stamp benefits. While EBT has proven beneficial it automatically eliminated access to many facilities that feature local fresh fruits and vegetables such as farmers' markets. However, thanks to a grant from United States Department of Agriculture to the Colorado Farmers' Market Association, food stamps will now be legal tender at 18 farmers' markets throughout the state. This new technology will help both food stamp recipients and local farmers.

• On average 92 percent of adults participants have changed one or more dietary habits to improve their health.
• On average adult participants reported a savings of $80.75 on their monthly grocery bills.

4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
805	Community Institutions, Health, and Social Services
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle
701	Nutrient Composition of Food

Outcome #4

1. Outcome Measures

Number of participants at the trainings

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	3000	23876

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
704	Nutrition and Hunger in the Population
711	Ensure Food Products Free of Harmful Chemicals, Including Residu
724	Healthy Lifestyle
805	Community Institutions, Health, and Social Services
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa
703	Nutrition Education and Behavior

Outcome #5

1. Outcome Measures
Number of Partnering agencies throughout the state who collaborated in these efforts

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	224

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Issues of food safety and human health are of concern to communities and community agencies across the state. The cost of food borne and life changing illnesses including diabetes and obesity are a constant in the popular press. The health issues of an aging US population have been clearly documented.

What has been done

Through the food safety, Dining with Diabetes, and Strong Women,Strong Bones programs, CSU Extension has provided an opportunity for community agencies to support programs that aim to address significant health issues.

Results

Through Nutrition and Food Safety programs, more than 220 community agencies have partnered with Extension to address significant community health issues.

4. Associated Knowledge Areas

KA Code	Knowledge Area
711	Ensure Food Products Free of Harmful Chemicals, Including Residu
712	Protect Food from Contamination by Pathogenic Microorganisms, Pa
805	Community Institutions, Health, and Social Services
724	Healthy Lifestyle
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population
701	Nutrient Composition of Food

Outcome #6

1. Outcome Measures

Facilitate international trade of food products

2. Associated Institution Types

•1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Colorado State University scientists conducted research addressing current red meat (a) safety, (b) quality, and (c) marketing issues in 2007. Efforts to restore beef export trade continued following the 2003 detection of Bovine Spongiform Encephalopathy (BSE) in the U.S.

What has been done

The best mechanisms by which meat processors may better control prevalence of Listeria monocytogenes on ready-to-eat meats and E. coli O157:H7 on non-intact beef products was determined; such technologies are rapidly being implemented by industry. We also continued efforts to better characterize cattle that do, versus cattle that do not, persistently shed E. coli O157:H7 using molecular and cell-culture techniques.

Results

Our research efforts have resulted in adoption and implementation of beef carcass instrument grading by USDA and industry by the end 2008, improved marketing opportunities for non-conforming beef carcasses, greater trade access for U.S. beef, reduced distortion in policies associated with control of BSE, and safer meat products.

4. Associated Knowledge Areas

KA Code	Knowledge Area
805	Community Institutions, Health, and Social Services
711	Ensure Food Products Free of Harmful Chemicals, Including Residu

Outcome #7

1. Outcome Measures

Basic research on human nutrition

2. Associated Institution Types

•1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Heart disease continues to plague the US and other industrial countries.

What has been done

The overall goal of this project is to investigate the cellular effects and molecular mechanisms of action by which soy derived phytoestrogens protect against cardiomyocyte injury and regulate lipid metabolism.

Results

We have continued to make great progress on examining the effects of soy derived phytoestrogens on lipid-induced cardiac myocyte death and survival pathways. Following characterization of primary cardiac myocyte death and survival in response to lipid exposure, a dose-response approach was used to examine the effects of 2 soy derived phytoestrogens on lipid induced heart cell death. Data was obtained supporting our hypothesis that soy derived phytoestrogen genistein attenuates cardiomyocyte death and promotes survival following lipid exposure. While in a widely used cardiomyocyte line we found this to be true at both physiological and supraphysiological concentrations of genistein, in primary cardiomyocytes isolated directly from left ventricular myocardium, we found that high concentrations of genistein rapidly resulted in cell death. Additionally, we have found no significant protection against lipotoxic effects by the phytoestrogen daidzein.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Populations changes (immigration,new cultural groupings,etc.)

Brief Explanation

This being the first year of a new reporting system, it was unknown as to what data we might actually be able to pull together. Our year end evaluations were phenomenal - way beyond what we had anticipated. We have GREAT data - far more than is actually in the report. We intend to load our Work Team Reports onto the CSUE website. As soon as that is done, I will send the link to our CSREES contacts.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)

Evaluation Results

Key Items of Evaluation

Program #4

V(A). Planned Program (Summary)

1. Name of the Planned Program

Animal Production Systems

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
301	Reproductive Performance of Animals	8%		10%	
302	Nutrient Utilization in Animals	7%		10%	
303	Genetic Improvement of Animals	0%		20%	
307	Animal Management Systems	32%		30%	
311	Animal Diseases	0%		10%	
315	Animal Welfare/Well-Being and Protection	20%		10%	
601	Economics of Agricultural Production and Farm Management	33%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	0.0	9.5	0.0
Actual	16.0	0.0	4.7	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
129099	0	221174	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
129099	0	221174	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
518836	0	1053024	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- •Workshops and educational classes for producers
- •Demonstration plots and field days to showcase the results
- •Individual counseling on producers specific problems
- •Conduct basic and applied resesarch on livestock, primarily beef, dairy, sheep, and horses

2. Brief description of the target audience

Individual agricultural producers, commodity groups, agri-business partners

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	800	5000	2500	2500
2007	44240	0	14492	33291

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	3	48	51

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of attendees at workshops/trainings/field days

Year	Target	Actual
2007	500	3739

Output #2

Output Measure

- Amount of grant dollars garnered to support animal research and outreach programs

Year	Target	Actual
2007	30000	1236668

Output #3

Output Measure

- Number of technical and referreed journal articles published

Year	Target	Actual
2007	20	51

Output #4

Output Measure

- Number of workshops presented.

Year	Target	Actual
2007	{No Data Entered}	103

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Number of participants in workshops/trainings/field days indicating an increase in knowledge gained
2	Percent of participants indicating change in behavior/ best practices adopted
3	Economic impact of the change in behavior reported

Outcome #1

1. Outcome Measures

Number of participants in workshops/trainings/field days indicating an increase in knowledge gained

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	60	41

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

NOTE: This metric needs to be changed to % of participants.

CSU Beef Field Day

Fifteen thousand beef producers in the state help make cattle and calves Colorado's number one agricultural commodity. Nearly one-third of Colorado's counties are considered economically dependent on the cattle industry. Information on the latest research and methods and solutions to the difficult issues facing the cattle industry are provided to producers throughout the state through CSU animal sciences and the Extension beef team.

What has been done

The opportunity to network with other producers and view state cattle operations has been identified by ranchers as a productive way to 1. hear about the latest CSU research, 2. exchange ideas on a regular basis, and 3. become familiar with the local CSU Extension beef team member. In 2007, the newly organized CSU Extension Beef Team launched a new, more interactive and accessible annual CSU Beef Field Day as part of the Colorado Farm Show. Beef Field day will rotate locations from one side of the Rocky Mountains to the other.

Results

The initial meeting was held in Limon on the eastern plans - rotating throughout the beef producing areas, it will be held in the western high country in 2008. In 2007 there were over 250 in attendance from Colorado, Nebraska, Kansas and Wyoming. Participants learned about the ranches' health management program, their participation in the Red Angus Association of America's (RAAA) carcass evaluation program and estrous synchronization strategies. Tour attendees were able to see intensive grazing strategies including plant utilization and growth and learn about the pros and cons of summer calving vs. traditional calving seasons. Outstanding networking, excellent education and a strong connection with the CSU Beef Team was reinforced.

4. Associated Knowledge Areas

KA Code	Knowledge Area
303	Genetic Improvement of Animals
301	Reproductive Performance of Animals
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #2

1. Outcome Measures

Percent of participants indicating change in behavior/ best practices adopted

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	73

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Alternative Energy Education
Sunny Days-The Northeast Colorado Alternative Energy Summit

The economy of the eastern plains of Colorado revolves around farming and ranching. The climate typically has a low relative humidity, abundant sunshine, light rainfall and moderate to high winds. Community leaders face the challenge of attracting and keeping young people in the region. Solar, wind and alternative fuels have the potential to revitalize the economy of these communities through jobs and industry.

What has been done

The Northeast Colorado Alternative Energy Summit in Akron, Colo., hosted in part by CSU Extension was organized to showcase renewable energy options such as an anaerobic biodigester system for livestock operations. 125 producers, investors and legislators learned about the direct economic benefits of renewable energy businesses.

Results

Gary and Laura Teague, of Teague Diversified in Fort Morgan, Colo. installed an anaerobic biodigester system as part of their livestock operation. They rely on Extension for everything from nutritional data to alternative management plans. They are among a group of farmers nationwide who are on the leading edge of developing business models that incorporate renewable energy. State Representative Cory Gardner said about the conference, We have to capture the imagination and offer exciting new things for young families to bring them to the region.

4. Associated Knowledge Areas

KA Code	Knowledge Area
307	Animal Management Systems
601	Economics of Agricultural Production and Farm Management

Outcome #3

1. Outcome Measures
Economic impact of the change in behavior reported

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	300000	85000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
303	Genetic Improvement of Animals
301	Reproductive Performance of Animals
302	Nutrient Utilization in Animals
311	Animal Diseases
307	Animal Management Systems
315	Animal Welfare/Well-Being and Protection
601	Economics of Agricultural Production and Farm Management

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programatic Challenges

Brief Explanation

A new reporting system which will aggregate outputs and outcomes for Colorado Extension was put in place this year. consequently, we do not have reportable results in the form needed for the CSREES Accomplishment Report from all work teams. As we continue with this reporting, our data collection should become much stronger.

An additional external factor: Early in 2007 a snow storm left 3 to 4 feet of snow covering in southeast Colorado. Livestock were stranded in isolated groups and inaccessible areas; producers were essentially confined to their farmsteads for several days to a week after the storm. Due to mild weather in past years, many cow/calf producers were also beginning to calve out their cows. Post partum death losses were substantial in many cases along with still births and abortions due to sub-maintenance nutrition of the cows. This event has a significant negative impact on studies conducted at the Southeastern Colorado Research Center in Lamar.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Case Study

Evaluation Results

Key Items of Evaluation

Program #5

V(A). Planned Program (Summary)

1. Name of the Planned Program

Plant Production Systems

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
201	Plant Genome, Genetics, and Genetic Mechanisms	0%		10%	
202	Plant Genetic Resources	4%		5%	
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plar	3%		10%	
204	Plant Product Quality and Utility (Preharvest)	2%		0%	
205	Plant Management Systems	35%		20%	
206	Basic Plant Biology	8%		10%	
211	Insects, Mites, and Other Arthropods Affecting Plants	3%		10%	
212	Pathogens and Nematodes Affecting Plants	6%		10%	
213	Weeds Affecting Plants	9%		10%	
215	Biological Control of Pests Affecting Plants	3%		5%	
216	Integrated Pest Management Systems	27%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	21.0	0.0	36.0	0.0
Actual	20.0	0.0	26.7	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
196167	0	1020930	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
196167	0	1020930	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
788374	0	3108810	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Conduct basic and applied research in plant productions systems.
• Workshops and educational classes for producers.
•Utilize demonstration plots and field days to communicate program results.
•Use individual counseling with producers and clientele on specific plant production problems

2. Brief description of the target audience

Individual agricultural producers, homeowners, agribusinesses, and commodity organizations.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	800	5000	0	0
2007	84277	2330	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	8	84	92

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Release of technologies adopted by growers such as crop cultivars, crop germplasm, or components of crop production syste

Year	Target	Actual
2007	2	4

Output #2

Output Measure

- Number of attendees at workshops/trainings/field days.

Year	Target	Actual
2007	600	20920

Output #3

Output Measure

- Amount of grant dollars garnered to support natural plant production systems research and outreach.

Year	Target	Actual
2007	25000	2239813

Output #4

Output Measure

- Technical publications in the topical area of plant production systems.

Year	Target	Actual
2007	25	155

Output #5

Output Measure

- Number of basic and applied research efforts in plant production systems.

Year	Target	Actual
2007	50	0

Output #6

Output Measure

- Number of Extension workshops focusing on plant production systems.

Year	Target	Actual
2007	{No Data Entered}	553

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Percent of participants at workshops/trainings/field days indicating an increase in knowledge gained.
2	Percent of participants indicating change in behavior/best practices adopted.
3	Economic impact of the change in behavior reported.
4	Adoption of crop production technology as measured by agricultural statistics.
5	Adoption of improved wheat cultivars
6	Potential of living mulches to decrease soil erosion.

Outcome #1

1. Outcome Measures

Percent of participants at workshops/trainings/field days indicating an increase in knowledge gained.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	42

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
216	Integrated Pest Management Systems
205	Plant Management Systems
212	Pathogens and Nematodes Affecting Plants
215	Biological Control of Pests Affecting Plants

Outcome #2

1. Outcome Measures

Percent of participants indicating change in behavior/best practices adopted.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	12

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Irrigation Audits

In the next 25 years, Colorado's population is expected to exceed seven million people, and an additional 632,000 acre-feet of water will be needed in cities to support their growth. The growing population relies on limited water resources provided by a semiarid climate. Periodic droughts, characteristic of the West, limit the total water supply available for outdoor landscape watering, indoor consumption, manufacturing, agriculture and other uses. In addition to wasting water, turf and landscape plants, when watered incorrectly, suffer from disease and insect pressure, which often results in more pesticide applications to combat the problems.

What has been done

Landscape irrigation audits have been done in the Grand Valley of Western Colorado (Mesa County) for the past three years. The basic level audit is an inspection of the irrigation system to determine needed repairs. A map of the property with the location of heads, irrigation zones and any problems with the heads is provided to the clients. Turf and soil problems were identified and corrective procedures detailed. Handout material on turf care was provided each participant along with guidance on how to irrigate based on visual symptoms.

Results

• Problems found during the basic level irrigation audit typically cause overwatering of a lawn by 20 to 70 percent for an accumulated average of 40 percent. In the Grand Valley, this equates to an overapplication of 2.3 acre-feet of water per one acre of turf.
• A 2007 survey of those audited indicates that:
-43 % of the people responding to the survey have completed the suggested repairs.
-39 % said they had the repairs started but not completed.
-8 % were not able to get them started or completed because it was too late in the season.
-4 % said they did not do the repairs.
-70 % saw an improvement in their lawn.
-10 % said it was too soon to tell.
-11 % did not see an improvement.
-93 % said information received was helpful.

4. Associated Knowledge Areas

KA Code	Knowledge Area
205	Plant Management Systems
204	Plant Product Quality and Utility (Preharvest)
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plant

Outcome #3

1. Outcome Measures

Economic impact of the change in behavior reported.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150000	7000000

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

New Farmer Program/Market Farm Track

In Boulder County, Colorado, locally grown produce is highly valued by local consumers. In addition the average age of farmers in the U.S. continues to rise (and is now over 55 years of age) and many people new to agriculture are interested in learning about farming.

What has been done

The CSU Extension-Boulder County New Farmer program provides an opportunity for mentorship with seasoned growers and a reality check on the business and marketing needs of operating a small farm. Intermediate and experienced farmers energized the learning environment. Sessions explored content useful to all levels of experience. New farmers learned in this community of farmer students and teachers.

Results

Results
New farmers who participated in the program gained a better understanding of the operational details of growing and marketing their product.

Participants said:
- I think having the varying scales of operation was useful. It gave beginners or those of us who were not ready to become fully immersed in farming a hopeful perspective. Therefore I think that it is very important to have that range for those who for whatever reason don't find it feasible to go full force into farming.
- Success in farming isn't just about knowledge and experience--it's about the people doing the work and the work they put into it.
-I'll be selling flour at the market this year, the classes made me open my mind up to new possibilities
- I will be thinking more proactively about product and think of my operation more as a business.
-I will touch base with some of the other farmers more often with questions and ideas. It's very helpful knowing more about the specifics of their operations.
- will consider paid labor more than I had before.
-building up infrastructure gradually and inexpensively, focusing market efforts on quality and adding some specialty items, develop plan for restaurant sales in the future.
-market research and good record keeping rate a higher priority now.
-I have already started record keeping based on the NFP for the 2008 season. I feel empowered and in control as does my boss.

4. Associated Knowledge Areas

KA Code	Knowledge Area
213	Weeds Affecting Plants
206	Basic Plant Biology
216	Integrated Pest Management Systems
205	Plant Management Systems
211	Insects, Mites, and Other Arthropods Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plant
212	Pathogens and Nematodes Affecting Plants
215	Biological Control of Pests Affecting Plants

Outcome #4

1. Outcome Measures

Adoption of crop production technology as measured by agricultural statistics.

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	1	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Increasing the intensity of cropping systems by producers in the central great plains.

What has been done

Research and extension progams have conducted field trials to develop more intensive crop rotations through reduced tillage to increase the efficiency of water capture and plant use.

Results

The cropping systems developed benefit producers managing about 1,500,000 acres in CO. This area has been converted from wheat-fallow to wheat-summer crop-fallow systems. This conversion increased net return by $22,275,000 per year under normal precipitation conditions in the dryland cropping regions of eastern Colorado.

4. Associated Knowledge Areas

KA Code	Knowledge Area
212	Pathogens and Nematodes Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants
205	Plant Management Systems
216	Integrated Pest Management Systems
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plant
213	Weeds Affecting Plants

Outcome #5

1. Outcome Measures
Adoption of improved wheat cultivars

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Wheat was seeded on an estimated 2.4 million acres in fall 2007 in Colorado. Hatcher was the most popular variety seeded in Colorado and was planted on 22.2 percent of the acreage for the 2008 crop compared with only 6.5 percent and a fifth place ranking a year earlier. Jagalene, a private seed company (AgriPro) variety, the second most popular variety, was seeded on 10.7 percent of the acreage for the 2008 crop, down from 14.2 percent and the top position for the 2007 crop.

What has been done

The Colorado wheat crop was valued at over $500 M last year and Hatcher, planted on 500,000 acres this year, with an average expected yield advantage over the average of all other varieties of 3 bu/ac, will conservatively result in 1,500,000 more bushels of wheat production than if Hatcher was not grown.

Results

At a market price of $5/bu for 2008 wheat, Hatcher could result in an increase of value of over $7 M- in a single year! Wheat improvement is a total team effort involving many talented CSU researchers and dedicated extension agents working in close collaboration with an incredible Colorado wheat industry and wheat grower organizations.

4. Associated Knowledge Areas

KA Code	Knowledge Area
211	Insects, Mites, and Other Arthropods Affecting Plants
202	Plant Genetic Resources
205	Plant Management Systems
201	Plant Genome, Genetics, and Genetic Mechanisms
212	Pathogens and Nematodes Affecting Plants
204	Plant Product Quality and Utility (Preharvest)
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plant
213	Weeds Affecting Plants

Outcome #6

1. Outcome Measures

Potential of living mulches to decrease soil erosion.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Crop producers need management practices to decrease soil erosion, suppress weeds and insects, improve soil structure and nutrient cycling, carbon sequestration, and nitrogen fixation. One approach is to employ legumes as a living mulch, i.e., perennial plants used as cover crops in the production of annual cash crops. Kura clover (Trifolium ambiguum) is a perennial, rhizomatous legume that has been used successfully in the upper Midwest as a living mulch in no-till crop production systems.

What has been done

he objective of this project was to demonstrate the benefits of using a kura clover living mulch system for no-till crop production under furrow-irrigated conditions in Colorado. A preliminary study conducted in 2006 found significant reductions of 85% or more in the concentration of sediment in irrigation tailwater from living mulch compared to conventionally-tilled plots. Results also indicated that minimum tillage in addition to herbicides may be necessary to reduce competition from the clover. In 2007, corn was grown under furrow irrigation using living mulch and conventional practices at Fruita, Colorado. All plots were sprayed with a broadcast application of glyphosate and dicamba in April to provide early season suppression of the clover. Corn was seeded into the kura clover living mulch following application of 3 suppression treatments: no-till plus band spray with pre-plant herbicide in 25 cm bands, strip-till in 25 cm bands, or no-till (no additional suppression at time of seeding). In addition, each suppression treatment was replicated 3 times within each block and received either 0, 84, or 168 kg/ha of nitrogen in an effort to determine the contribution of nitrogen from the clover. The highest corn yield was 11.7 Mg/ha in the strip-tilled treatment that received 168 kg N/ha. This was in comparison to 9.4 and 10.9 Mg/ha in the conventional-tillage treatments that received 168 and 336 kg N/ha, respectively. There appears to be a positive relationship of growing corn in a living mulch that has been strip tilled. Reduced competition from the clover by strip tilling, preparation of a seedbed, addition of nitrogen from atmospheric fixation by the clover, and release of that nitrogen at a slow rate over the season as it mineralizes are the most likely benefits of this treatment. Following corn harvest in November, yields of both the kura clover and corn stover were determined. The clover needs to be suppressed early in the season so that it does not compete too strongly with the corn. Once the corn canopy closes, the clover is adequately shaded and remains suppressed until the corn starts to mature and dry down later in the season. At that point, light reaches the ground once again and the clover begins to grow into the fall since it is a cool-season plant. Once the corn is harvested, the clover/corn stover mix can be grazed by livestock with the clover providing a high quality protein source. Clover yield was quite variable but averaged 866 kg/ha across treatments. The yield of corn stover averaged almost 5.6 Mg/ha across treatments. Longer-term impacts to variables such as soil structure and carbon sequestration will be determined at the conclusion of this project.

Results

Results to date illustrate several environmental and economic benefits associated with integrating perennial living mulches into annual cropping systems. Sediment load reductions of over 85% in tailwater from furrow-irrigated fields point to less soil erosion which should translate to improved water quality for downstream users. Producers should also experience more efficient use of applied nutrients since fewer will be carried off the end of the field with the sediment. This has both environmental and economic benefits. Maintaining or increasing yields comparable to conventional practices while using fewer inputs of inorganic fertilizers, especially nitrogen, also has both environmental and economic benefits. Corn yields were actually higher in the living mulch plots that were strip-tilled and received 168 kg/ha of nitrogen compared to conventionally grown corn that received 336 kg/ha of nitrogen. Assuming a current price for nitrogen of $1.10/kg, a producer could potentially save up to $185/ha and have the same or higher corn yields. Looking at it another way, corn yield averaged 2.26 Mg/ha higher in the living mulch plots that were strip tilled compared to those in which corn was grown conventionally when both were fertilized with 168 kg/ha of nitrogen. At a current price of $165/Mg, this equates to additional gross income of about $373/ha. A final economic benefit would come from the additional high quality forage that could be utilized by on-farm livestock or leased for grazing at a premium. In many areas, corn stalks are leased for cattle grazing in the fall. The corn stover is a good energy source but is often low in protein which must then be supplemented in order to maintain animal condition and gain. Assuming the need to supplement 0.9 kg/day of crude protein using soybean meal at $0.75/kg of protein, a livestock producer could save up to $0.67/day by utilizing the clover as the protein source. This value could easily be taken into account when negotiating lease prices for grazing of corn stover. Field tours and workshop presentations were conducted to expose producers and others to the potential environmental and economic benefits of using living mulch cropping systems.

4. Associated Knowledge Areas

KA Code	Knowledge Area
203	Plant Biological Efficiency and Abiotic Stresses Affecting Plant
216	Integrated Pest Management Systems
205	Plant Management Systems
213	Weeds Affecting Plants
211	Insects, Mites, and Other Arthropods Affecting Plants

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programatic Challenges

Brief Explanation

Implementation of a new reporting system has resulted a lack of data for some outputs and outcomes. Continued emphasis on specific, quantifiable outputs and outcomes should result in a stronger report in subsequent years.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Case Study

Evaluation Results

Key Items of Evaluation

Program #6

V(A). Planned Program (Summary)

1. Name of the Planned Program

Natural Resources and Environment

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
101	Appraisal of Soil Resources	0%		10%	
102	Soil, Plant, Water, Nutrient Relationships	30%		10%	
103	Management of Saline and Sodic Soils and Salinity	0%		10%	
104	Protect Soil from Harmful Effects of Natural Elements	1%		0%	
111	Conservation and Efficient Use of Water	16%		20%	
112	Watershed Protection and Management	3%		10%	
121	Management of Range Resources	19%		10%	
122	Management and Control of Forest and Range Fires	2%		0%	
123	Management and Sustainability of Forest Resources	5%		10%	
124	Urban Forestry	7%		0%	
131	Alternative Uses of Land	13%		0%	
132	Weather and Climate	2%		10%	
134	Outdoor Recreation	1%		0%	
403	Waste Disposal, Recycling, and Reuse	1%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	15.0	0.0	14.0	0.0
Actual	19.0	0.0	10.7	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
417006	0	446963	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
417006	0	446963	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
1675904	0	1635939	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Conduct workshops and educational classes for producers, landowners, and agency personnel.
•Establish demonstration plots and field days to share research and outreach results.
•Consult with individual producers and landowners to address local problems.
•Conduct basic and applied research on environmental and natural resources issues.

2. Brief description of the target audience

Individual agricultural producers, landowners, commodity groups, regulatory agencies, agribusinesses, and local, state, and federal land management agencies.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	500	5000	0	0
2007	49887	453718	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	62	105	167

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- Number of attendees at workshops/trainings/field days.

Year	Target	Actual
2007	500	520

Output #2

Output Measure

- Amount of grant dollars garnered to support natural resources research and outreach.

Year	Target	Actual
2007	25000	9864267

Output #3

Output Measure

- Number of technical and refereed journal articles published.

Year	Target	Actual
2007	25	136

Output #4

Output Measure

- Number of Master Gardener volunteer hours.

Year	Target	Actual
2007	{No Data Entered}	55400

Output #5

Output Measure

- Value of volunteer time at $20.08/hour (nationally recognized value).

Year	Target	Actual
2007	{No Data Entered}	1112432

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Number of participants in workshops/trainings/field days indicating an increase in knowledge gained.
2	Percent of participants indicating change in behavior/best practices adopted.
3	Economic impact of the change in behavior reported.
4	Reducing costs of irrigation
5	Impact of UV-B radiation on agriculture
6	Small Acreage Management Workshops

Outcome #1

1. Outcome Measures

Number of participants in workshops/trainings/field days indicating an increase in knowledge gained.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	60	84

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Renewable Energy Options Conference

The business of renewable energy can reinvigorate rural communities across America and Extension can play a vital role in bringing people and science together to make it work. If they know what to look for, Extension agents can recognize the possibilities and introduce entrepreneurial producers with financial backers, utilities, private energy enterprises and other industry professionals. An informed agent can be the catalyst for changing the fabric of an entire community.

What has been done

Colorado State University Extension hosted, "Renewable Energy Options: The Role of Extension Agents in the 21st Century Energy Economy" in March 2007. This first-of-its-kind conference attracted 100 participants, mostly Extension agents, from 17 different states.

Colorado State University Extension plays a key role in the conservation side of the energy equation. Horticulture research, education and information provided directly to the public increases the use of shade plants in landscaping, reduces reflected-heat generation from asphalt and rock, and reduces water use. All contribute to reduced energy consumption and more water availability for energy-related crops.

Results

In Colorado the next steps are rolling out quickly. Locally driven conferences designed to attract investment and bring smaller projects to fruition are already convening. Larger alternative-energy plant projects are soon to break ground. Colorado State University has announced the Clean Energy Supercluster to enhance collaboration between academic researchers and commercial partners and improve time-to-market for new technologies. Extension is in every community to find the right match for the right opportunity. Future conferences will include consumer choices to improve building alternatives, landscaping, home energy use and home energy alternatives.

4. Associated Knowledge Areas

KA Code	Knowledge Area
101	Appraisal of Soil Resources
102	Soil, Plant, Water, Nutrient Relationships
112	Watershed Protection and Management
121	Management of Range Resources
111	Conservation and Efficient Use of Water

Outcome #2

1. Outcome Measures

Percent of participants indicating change in behavior/best practices adopted.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	50	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Native Plant Master

Water is an increasingly precious resource in Colorado and invasive weed plant species are a serious problem. Population in urban areas and population purchasing small acreage with little knowledge about local landscape and plants are both increasing at dramatic rates. Protecting Colorado's land and water resources is a concern at every levelÃ—state, county, local, neighborhood and individual home and land owners.

What has been done

Colorado implemented one of the first Native Plant Master programs to train and certify individuals about the biologic and human values about native and invasive plant species in Colorado and to serve in their local communities as resident experts with volunteer time. After initial pilot periods the program was launched broadly across the state in 2007.

Results

Currently 25 counties in Colorado have Native Plant Master programs. In 2007 17.630 citizens were educated about the value of native plants and the threats of noxious weeds. An impact survey indicated that 71% of those developed landscaping plans using natives on 70 properties. 68% of participants controlled noxious weeds on 67 properties. Over 22,000 acres were impacted.

4. Associated Knowledge Areas

KA Code	Knowledge Area
102	Soil, Plant, Water, Nutrient Relationships
111	Conservation and Efficient Use of Water
104	Protect Soil from Harmful Effects of Natural Elements

Outcome #3

1. Outcome Measures

Economic impact of the change in behavior reported.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	150000	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Limited Irrigation

With sales of water to the Front Range and compact issues with neighboring states, water quantity and quality are defining issues in Colorado agriculture.

What has been done

CSU Extension currently addresses these issues by partnering with producers and organizations to develop effective methods and cropping systems. Extension is also working with producers to explore potential bio-fuel crops, such as canola, which may prove favorable to the region.

Results

Third generation Burlington farmer, Zach Coryell, has been working with CSU Extension's Water Specialist researching limited irrigation methods. The study partnership is gathering data on corn, soybean and sunflower crop yields. The biggest challenge for Coryell has been to change his mindset about water usage and adjust to smaller yields. "When you put it down on paper, you realize you save more on costs for electricity to pump the water than you would have made with bigger yields on full irrigation," he said.

The Irrigation Water Optimization Project (IWOP) investigates cropping system options for meeting growing urban water needs while sustaining viable economic returns to rural communities. IWOP assists small and medium sized farms to identify sustainable cropping strategies with innovative outreach and education programs.

4. Associated Knowledge Areas

KA Code	Knowledge Area
131	Alternative Uses of Land
112	Watershed Protection and Management
111	Conservation and Efficient Use of Water
102	Soil, Plant, Water, Nutrient Relationships
132	Weather and Climate

Outcome #4

1. Outcome Measures

Reducing costs of irrigation

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Agricultural water usage is a constant concern in arid eastern Colorado. Through the use of current irrigation scheduling technology, water usage can be reduced, thus conserving a limited natural resource and reducing farm input costs.

What has been done

An on-farm demonstration of current irrigation scheduling technology was conducted. Soil moisture monitoring equipment was installed in a producer's field with a user-friendly data logger system to monitor and graph soil moisture status. Four field days were held to demonstrate the technology.

Results

he producer who cooperated with the irrigation scheduling demonstration has considerable acreage with irrigation. He discussed management decisions that generally are difficult since this is a corporation. With the addition of this monitoring equipment, they now had facts that would support early season and late season management. With the use of this equipment, the producer estimated that they saved in excess of $30,000 in electricity costs by not pumping due to the data from the monitoring equipment.

4. Associated Knowledge Areas

KA Code	Knowledge Area
111	Conservation and Efficient Use of Water

Outcome #5

1. Outcome Measures

Impact of UV-B radiation on agriculture

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

UV-B radiation and climate change are a a concern because of their potential impact on agriculture, human health, ecological processes, and the possible spread of infectious disease.

What has been done

A global network has been established to collect data from 40 sites in the United States, Canada, and New Zealand, including spectral ultraviolet (UV) and visible radiation, erythemally weighted UV, photosynthetically active radiation (PAR), and other variables. The overall data completeness for 2007 is 98%. Modules and software packages were implemented to provide daily sums of UV-A, UV-B, irradiance, and related data.

Results

The importance of monitoring UV radiation along with other climatic variables as part of the climate change research and evaluation is further recognized by scientists and policy makers due to the knowledge gained from the research using our datasets. In 2007, people from higher UV irradiance areas such as Florida and California consulted us with their concerns about the potential UV damage to their skin and eyes. People from the industry consulted with us about the potential damage of UV radiation to polyester fibers. Modeling simulations of the fully coupled GOSSYM-CWRF system show that a UV-B daily dose of 8 kJ/m^2/day will cause a reduction of 1-7% in cotton yields in the U.S. cotton belt. This reduction could be as high as 40% if UV-B irradiance should increase to 18 kJ/m^2/day.

4. Associated Knowledge Areas

KA Code	Knowledge Area
132	Weather and Climate
104	Protect Soil from Harmful Effects of Natural Elements
102	Soil, Plant, Water, Nutrient Relationships

Outcome #6

1. Outcome Measures

Small Acreage Management Workshops

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	4

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

In most of Colorado, small acreage ownership is growing at a rapid rate. The majority o these small parcels run form two to 12 acres. Management of these lands usually id directed toward producing forage for horses or livestock or simply watching things grow. Major problems result from a general lack of understanding relating to forage production and grazing management.

What has been done

Five workshops attended by over 300 people (1330 contact hours)covered soils and fertility, water and irrigation management, weed management, pasture development and management, NAIS, greenhouse materials and construction, greenhouse management, alternative fruit crops and production practices, and forming cooperatives as a marketing tool. A periodic Small Acreage Management (SAM) newsletter is sent periodically to over 600 land owners.

Results

As a result of the workshops, partnerships have emerged between CSU Extension, several soil conservation disstricts, NRCS, The Western Colorado Research Center, Colorado State Forest Service, several county weed districts,the American Groundwater Trust, the Colorado Well Drillers and Contractors Association and others. Participants in the workshops report increased knowledge following the program averaging between 100 and 200% over their previous knowledge base. Action outcomes reported included improved weed control and pasture management, additional fencing installed and reduction in overgrazing.

4. Associated Knowledge Areas

KA Code	Knowledge Area
104	Protect Soil from Harmful Effects of Natural Elements
131	Alternative Uses of Land
111	Conservation and Efficient Use of Water
121	Management of Range Resources
102	Soil, Plant, Water, Nutrient Relationships
101	Appraisal of Soil Resources

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Programatic Challenges

Brief Explanation

The implementation of a new reporting system has, in some program areas, provided rich data from which to determine the success of programming efforts. However, not all program areas have fully implemented the evaluation portion of the system. This program area is one what will improve next year, once they fully implement the reporting template and begin to collect appropriate data.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Case Study

Evaluation Results

Key Items of Evaluation

Program #7

V(A). Planned Program (Summary)

1. Name of the Planned Program

Community Resource Development

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
601	Economics of Agricultural Production and Farm Management	0%		40%	
602	Business Management, Finance, and Taxation	13%		0%	
604	Marketing and Distribution Practices	7%		0%	
605	Natural Resource and Environmental Economics	2%		30%	
607	Consumer Economics	4%		0%	
608	Community Resource Planning and Development	69%		20%	
610	Domestic Policy Analysis	5%		0%	
803	Sociological and Technological Change Affecting Individuals,	0%		10%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of professional FTE/SYs expended this Program

Year: 2007	Extension		Research	
	1862	1890	1862	1890
Plan	9.0	0.0	4.0	0.0
Actual	5.0	0.0	2.0	0.0

2. Actual dollars expended in this Program (includes Carryover Funds from previous years)

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
74572	0	183908	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
74572	0	183908	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
299696	0	521829	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

•Internal training for CE personnel in community mobilization, facilitation, economic development.

•Working with rural communities on a regional approach to small town tourism including making optimal use of environmental resoureces, respecting the socio-cultural authenticity of host communities while conserving their built and living cultural heritage and traditional values,and ensuring viable, long-term economic operations , including stable emp0loyment and income-earning opportunities.

•Conduct basic and applied research in areas exploring the interface between agribusiness, rural development, and natural-resource-amenity-based opportunities.

•Conduct workshops and other educational activities with community stakeholders.

•Facilitation of community discussions on bio-based, renewable energy (oil seeds, ethanol, wind), energy conservation, and energy audits.

2. Brief description of the target audience

Community members, general public, consumers, community organizations.

V(E). Planned Program (Outputs)

1. Standard output measures

Target for the number of persons (contacts) reached through direct and indirect contact methods

	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Year	Target	Target	Target	Target
Plan	1500	3000	0	0
2007	11150	0	0	0

2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

Year	Target
Plan:	0
2007 :	0

Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

	Extension	Research	Total
Plan			
2007	7	32	39

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- The number of training opportunities for CE staff

Year	Target	Actual
2007	2	2

Output #2

Output Measure

- Training opportunities for community members

Year	Target	Actual
2007	5	7

Output #3

Output Measure

- Tourism rallies held

Year	Target	Actual
2007	1	1

Output #4

Output Measure

- Technical publications related to economics, public policy, community development and related areas.

Year	Target	Actual
2007	10	41

Output #5

Output Measure

- Amount of grant dollars garnered to support community development research and outreach.

Year	Target	Actual
2007	{No Data Entered}	232967

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O No.	Outcome Name
1	Number of staff increasing knowledge of sustainable community development principles, facilitation, and economic development strategies.
2	Percent of community residents, businessses and leaders who increase their understanding of sustainable community development and tourism and economic development principles.
3	The number of communities which evaluate tourism potential and prioritize to target specific interests, increase action around trouism issues ,and identify valued community resources to maintain.
4	The number of communities which experience increased economic gain from tourism, including increased tax revenues, tourism-related employment, and retention of community valued resources.
5	Planning, development and implementation of bio-based, renewable energy projects (such as processing plant, wind farm).
6	Optimal marketing approaches identified for direct selling to consumers
7	Community development/rebuild efforts in response to natural disasters.

Outcome #1

1. Outcome Measures

Number of staff increasing knowledge of sustainable community development principles, facilitation, and economic development strategies.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Fam
607	Consumer Economics
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

Outcome #2

1. Outcome Measures

Percent of community residents, businessses and leaders who increase their understanding of sustainable community development and tourism and economic development principles.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	25	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Fam
604	Marketing and Distribution Practices
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis

Outcome #3

1. Outcome Measures

The number of communities which evaluate tourism potential and prioritize to target specific interests, increase action around trouism issues ,and identify valued community resources to maintain.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	10	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Small rural communities continuously strive to identify sources of income and economic development, as well as strategies to encourage youth from those communities to return once they have completed their education

What has been done

One effort supported by CSU Extension in the past has been community assessment and planning around tourism opportunities. This year the final in a series of tourism rallies was held (despite the loss of the program leader due to deployment to Iraq).

Results

Previously, the efforts to identify the tourism development opportunities and capture the benefits from increased visits have resulted in the establishment of a lodging tax which then benefits the county economic base. The rally this year brought together folks around the need to create a National Heritage Area. Plans are continuing on this effort.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
605	Natural Resource and Environmental Economics
604	Marketing and Distribution Practices
610	Domestic Policy Analysis
608	Community Resource Planning and Development

Outcome #4

1. Outcome Measures

The number of communities which experience increased economic gain from tourism, including increased tax revenues, tourism-related employment, and retention of community valued resources.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	5	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Although we were unable to move forward on the tourism program due to loss of the program leader, the CRD work team did provide significant work in the area of fire mitigation:

Due to the loss of over 30,000 acres of forest land in fires, and the persistence of drought through most of the southwest, CSUE and the Colorado State Forest Service have jointly promoted the creation of Community Wildfire Protection Plans (CWPP). Officially a result of the Healthy Forests Restoration Act, the plans require a partnership between local government, fire authorities, state forest service personnel, relevant federal land management agencies and non-governmental representatives. The objective of a CWPP is to provide relevant guidelines unique to each community that individual property owners can implement. After doing so, property owners greatly increase their chances of saving their homes in the event of a wildfire.

What has been done

More than 300 landowners (75%) were either directly or indirectly involved in the development of CWPPs in the northwest area of Colorado. These efforts, for the first time, included part-time residents (individuals that Extension has not historically worked with).

Results

Through the workshops, community members gained knowledge about proper fire hazard reduction practices and evaluated their risks and priorities related to fire hazard reduction to protect life and property. Through a success effort to coordinate grant funding, more than $140,000 has been raised to support comprehensive forest planning.

4. Associated Knowledge Areas

KA Code	Knowledge Area
605	Natural Resource and Environmental Economics
610	Domestic Policy Analysis
608	Community Resource Planning and Development
803	Sociological and Technological Change Affecting Individuals, Fam

Outcome #5

1. Outcome Measures

Planning, development and implementation of bio-based, renewable energy projects (such as processing plant, wind farm).

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Economic development in southwestern Colorado

What has been done

Joint effort between Extension, AES, and private sector to build a oil seed processing plant in Dove Creek, CO, to produce biodiesel or sunflower oil.

Results

In the fall of 2007, construction of processing was begun and approximately 30,000 acres of sunflowers have been contracted with local farmers. This is the first ag based biofuel related plant in the area that is locally owned and managed.

4. Associated Knowledge Areas

KA Code	Knowledge Area
608	Community Resource Planning and Development
602	Business Management, Finance, and Taxation
610	Domestic Policy Analysis
605	Natural Resource and Environmental Economics
803	Sociological and Technological Change Affecting Individuals, Fam
604	Marketing and Distribution Practices

Outcome #6

1. Outcome Measures
Optimal marketing approaches identified for direct selling to consumers

2. Associated Institution Types

•1862 Extension
•1862 Research

3a. Outcome Type:
Change in Knowledge Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Approaches are needed by small to mid size producers who sell directly to consumers to market their commodities in an economical and efficient manner.

What has been done

A national survey for local and direct produce marketing analysis was completed in 2006 and evaluated by various clustering, statistical and econometric analyses to provide the types of marketing, customer and pricing information needed by a variety of fresh produce operations.

Results

Survey analyses indicate that producers selling fresh produce direct to consumers may be able to increase patronage by offering diverse, nutritionally enhanced, locally grown produce; by being located near consumers in target markets; by promoting freshness and vitamin content aspects of produce; by showcasing colorful produce on-site while enhancing overall visual appeal of offerings; and finally, by advertising via food and nutrition electronic newsletters and email, blogs, and when practical, local television. Colorado's consumer survey suggests that, when targeting consumers, there are four potential consumer clusters to consider: Urban, Assurance Seekers; Quality and Safety Consumers; Price Conscious Consumers; and Personal Value Buyers, all with varying perceptions and values. The former two groups represent the greatest short term potential to producers who directly market differentiated fresh produce at a premium.

4. Associated Knowledge Areas

KA Code	Knowledge Area
602	Business Management, Finance, and Taxation
604	Marketing and Distribution Practices

Outcome #7

1. Outcome Measures

Community development/rebuild efforts in response to natural disasters.

2. Associated Institution Types

•1862 Extension

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Quantitative Target	Actual
2007	{No Data Entered}	1

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Holly, Colorado Disaster Assistance and Community Development

In March of 2007, an early spring tornado moved through the community of Holly, Colorado in southeastern Colorado. Displaced families in this town of 1,000 needed housing, damaged utility lines and streets needed repair, dangerous conditions left in the town park needed cleaning and removal and homes needed to be rebuilt.

What has been done

Small or rural municipalities and special districts that do not have the budget or other resources to complete community development projects for themselves are able to get assistance through CSU Extension and the Department of Local Affairs (DOLA).

In 1991, a partnership was formed between DOLA and Extension to provide technical assistance to 34 counties in Eastern, Southeastern, and South Central Colorado. This partnership helps local governments set goals, make decisions, and create conceptual designs to meet the needs and vision of the local communities.

Results

The town of Holly and DOLA brought together state, federal and local agencies an town officials and residents to prioritize town improvements. Plans were developed for reconstruct the downtown and park areas. With this effort, the townspeople were able to concentrate on the improvements that their town was about to undergo. While digging out from under the tornados mass of debris, town officials and staff were able to utilize the skills and ideas of the Rural Technical Assistance Program, Extension and DOLA to help create a new park and downtown district. Design continues in 2008 with treatments for the schools recreation complex, other main street features, town signage and street and pedestrian lighting.

4. Associated Knowledge Areas

KA Code	Knowledge Area
803	Sociological and Technological Change Affecting Individuals, Fam
610	Domestic Policy Analysis
608	Community Resource Planning and Development

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Natural Disasters (drought,weather extremes,etc.)
- Economy
- Appropriations changes
- Government Regulations
- Competing Programatic Challenges

Brief Explanation

In this program area, the loss of one key work team leader/participant made a huge difference in the focus of the work team. Tourism was a keen interest of one agent who deployed to Iraq. With his departure, the need for bio-based, renewable energy information and community discussion, as well as information on energy conservation as identified by our stakeholders and CSREES, has taken the group in a different direction. We have a real lack of data and results due to this shift in direction. Next year we should have much more to report in the energy area.

V(I). Planned Program (Evaluation Studies and Data Collection)

1. Evaluation Studies Planned

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Case Study

Evaluation Results

Effort on this planned program was significantly reduced due to the deployment of the key coordinating individual for the tourism project. He will return to the states this fall. We hope to have more to report next year.

Key Items of Evaluation